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## Inventive spelling in the early childhood classroom

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## Inventive spelling in the early childhood classroom

### Abstract

This review of literature explored the use of inventive spelling in early childhood classrooms. The following three questions were posed: 1) Should inventive spelling be an instructional practice used in early childhood classrooms? 2) What is the relationship between inventive spelling development and other areas of children's literacy development? 3) What are the best practices for using inventive spelling in the classroom? Based on an analysis of pertinent, peer-reviewed articles and books, it was determined that inventive spelling has a valuable place in early childhood classrooms. Some benefits of using inventive spelling include a reduction of fear about writing (Chomsky, 1971a; Clarke, 1988; International Reading Association, 1998; Wilde, 1996a, 1996b), an increase in writing length (Chomsky, 1971 a; Wilde, 1992), and an increase in time spent writing (Chomsky, 1971a; Clarke, 1988; Forester, 1980, IRA, 1998). Inventive spelling also enhances children's development of phonemic awareness skills (Bear D.R., Invernizzi, M., Templeton, S., & Johnston, F., 2004; Gentry, 1991; Griffith, 1991; Richgels, 1995; Silva & Alves-Martins, 2002; Tangel & Blachman, 1992) and reading skills and understanding (Bums & Richgels, 1989; Chomsky, 1971 a, 1971 b; Clarke, 1988; Ehri & Wilce, 1987; Mann, Tobin, & Wilson, 1987). By analyzing inventive spelling samples, appropriate instruction can be designed (Gentry, 2000; Gentry & Gillet, 1993; Scott, 1991; Snowball & Bolton, 1999). Specific guidelines for implementing inventive spelling most effectively in the classroom are provided.

# INVENTIVE SPELLING IN THE EARLY CHILDHOOD CLASSROOM

A Graduate Review

Submitted to the

Division of Literacy Education

Department of Curriculum and Instruction

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts in Education

UNIVERSITY OF NORTHERN IOWA

by

Denielle J. Stuntz

April, 2007

This Review by: Denielle J. Stuntz

Titled: Inventive Spelling in the Early Childhood Classroom

has been approved as meeting the research requirement for the Degree of Masters of Arts  
in Education.

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## ABSTRACT

This review of literature explored the use of inventive spelling in early childhood classrooms. The following three questions were posed: 1) Should inventive spelling be an instructional practice used in early childhood classrooms? 2) What is the relationship between inventive spelling development and other areas of children's literacy development? 3) What are the best practices for using inventive spelling in the classroom? Based on an analysis of pertinent, peer-reviewed articles and books, it was determined that inventive spelling has a valuable place in early childhood classrooms. Some benefits of using inventive spelling include a reduction of fear about writing (Chomsky, 1971a; Clarke, 1988; International Reading Association, 1998; Wilde, 1996a, 1996b), an increase in writing length (Chomsky, 1971a; Wilde, 1992), and an increase in time spent writing (Chomsky, 1971a; Clarke, 1988; Forester, 1980, IRA, 1998). Inventive spelling also enhances children's development of phonemic awareness skills (Bear D.R., Invernizzi, M., Templeton, S., & Johnston, F., 2004; Gentry, 1991; Griffith, 1991; Richgels, 1995; Silva & Alves-Martins, 2002; Tangel & Blachman, 1992) and reading skills and understanding (Burns & Richgels, 1989; Chomsky, 1971a, 1971b; Clarke, 1988; Ehri & Wilce, 1987; Mann, Tobin, & Wilson, 1987). By analyzing inventive spelling samples, appropriate instruction can be designed (Gentry, 2000; Gentry & Gillet, 1993; Scott, 1991; Snowball & Bolton, 1999). Specific guidelines for implementing inventive spelling most effectively in the classroom are provided.

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## CHAPTER 1

### INTRODUCTION

There is great interest in the beginning stages of literacy development, especially children's early attempts to write, the invented spellings of young children (Tangel & Blachman, 1992). Inventive spelling refers to prereaders' and readers' spelling of words using symbols they associate with the sounds they hear in the words they write (Clarke, 1988). Even before students are able to hear the sounds in words they may begin to use inventive spelling or prephonic representations. Gentry (1982) describes children who use symbols from the alphabet to represent words, but yet do not understand the alphabetic principle. Henderson (1985) also describes how children will become interested in written language and demonstrate this interest through scribbles and the imitation of writing. These children begin to learn about letters and experiment with the concept of a word. Since the early work of Chomsky (1971a; 1971b) and Read (1971), the topic of inventive spelling has been studied in great detail. Based on subsequent findings of further research, inventive spelling has come to be supported as a good teaching practice that not only can be used to teach literacy skills, but also enhance children's phonemic awareness and reading development (Bear, D.R., Invernizzi, M., Templeton, S., & Johnston, F., 2004; Gentry 1991, 2000; Griffith, 1991; Richgels, 1995; Tangel & Blachman, 1992). The use of inventive spelling greatly contrasts the traditional spelling approaches used in most classrooms (Clarke, 1988; Wilde, 1990). This review of literature explored the use of inventive spelling in early childhood classrooms and considered the practices most beneficial for students in preschool and primary classrooms.



Correct spelling is not only highly regarded in literate societies, but also is expected by parents and the public; therefore, it is an important topic to early childhood educators (Courtney, 1991; Wilde, 1996a, 1996b). As Courtney (1991) states, “An ability to spell is regarded as almost equivalent to moral virtue; people who find spelling difficult—that is to say, most people—are usually ‘ashamed’ of this ‘fault’ while cheerfully acknowledging illegible handwriting, ignorance of the use of the semi-colon, or confusion between similar words” (p. 14). Knowing the importance of correct spelling, it is vital for educators to find the most successful approaches to instructing young children in their spelling development. Inventive spelling is one of those approaches used in this instruction (Clarke, 1988; Ehri & Wilce, 1987; Gentry, 1987; International Reading Association, 1998; Read, 1971; Sipe, 2001; Tangel & Blachman, 1992; Wilde, 1990).

Inventive spelling is also an important developmental component because of its relationship to children’s reading development. It can be a valuable assessment tool in identifying a child’s phonemic awareness skills (Chomsky, 1971a; Gentry, 2000), which is one of the best predictors of future reading ability (Chomsky, 1971a; Ehri and Wilce, 1987; Richgels, 1995; Silva-Alves-Martins, 2002). Recent research findings suggest that the relationship between phonemic awareness and invented spelling is reciprocal (Richgels, 1995; Silva & Alves-Martins, 2002; Tangel & Blachman, 1992). Although phonemic awareness helps a young speller create more sophisticated inventive spellings, children who produce more inventive spellings will also enhance their phonemic awareness in the process (Tangel & Blachman, 1992). Children’s engagement in inventive spelling can promote reading development (Chomsky, 1971a, 1971b; Ehri and

Wilce, 1987; Richgels, 1995) and, in fact, can actually help children become better readers (Chomsky, 1971a, 1971b).

### *Scope of the Review*

In many early childhood classrooms, traditional methods of spelling instruction are used. Wilde (1990) refers to these traditional methods of teaching spelling as the *memorization model* or the *textbook model*. In traditional models students use primarily the words they know how to spell in their writing and the conventional spelling of words is required (Clarke, 1988). Although some invented spelling does occur, it is expected that words will be corrected (Clarke, 1988). Using these traditional methods of spelling instruction, students commonly study 10-20 words per week with a total of 400 words per year (Wilde, 1990). The use of traditional methods may be a personal choice of the classroom teacher or it may be mandated by the school system (Wilde, 1990). Recently, however, the use of inventive spelling in the early childhood classroom has been utilized (Clarke, 1988; Ehri & Wilce, 1987; Gentry, 1987; IRA, 1998; Read, 1971; Sipe, 2001; Wilde, 1990). When using inventive spelling, words are not expected to be spelled correctly all of the time and children can invent spellings with the most basic understanding of how to break words into segments (Tangel & Blachman, 1992). Even students who do not have phonemic awareness are also encouraged to write. These children show interest in writing. They scribble and imitate writing (Henderson, 1985). They use symbols from the alphabet to represent words; however, they do not associate these symbols with sounds (Gentry, 1982). Students are not limited to a list, but instead can write any words they want (Chomsky, 1971a, 1971b).

This review compared the use of these more traditional spelling methods to the use of inventive spelling in early childhood classrooms (preschool through 2<sup>nd</sup> grade) to determine if inventive spelling has a place in early childhood classrooms. The review also examined the developmental aspects of spelling, the relationship of inventive spelling to other areas of literacy development, and the best practices when using inventive spelling in the early childhood classroom.

### *Application of Review*

I conducted this review of literature to identify the effectiveness of using inventive spelling in the early childhood classroom and to determine the most effective instructional strategies. The use of inventive spelling as an instructional approach is still questioned by some parents and even some educators (Chomsky, 1971a; Gentry, 2000; Read, 1971). This doubt may suppress the willingness of some parents and educators to use inventive spelling (Chomsky, 1971a). Frequently parents fear that their child's inventive spelling will lead to *bad habits* (Chomsky, 1971a; Read, 1971). The invented spellings of young children, particularly those who are prephonetic, sometimes look so little like English that parents and teachers may be unable to read them and may disregard or suppress them (Read, 1971). Parents and other adults may wonder if the child's lengthy exposure to systematic "misspellings" will result in an inability to acquire standard spelling. It appears, however, the transition to conventional spelling presents no difficulty for most children's proficient performance (Chomsky, 1971a). Parents and others must come to understand the value of inventive spelling. Teachers must be instructed on how to properly use inventive spelling samples to assess their students' work. This review was conducted to help parents, early childhood educators, and others

understand spelling development and methods that are most effective in facilitating its development.

### *Research Questions*

The primary research question that guided this review of literature was: Should inventive spelling be an instructional practice used in early childhood classrooms? The secondary questions included: What is the relationship between inventive spelling development and other areas of children's literacy development? What are the best practices for using inventive spelling in the classroom?

## CHAPTER TWO

### METHODOLOGY

Children's emerging writing is one of my passions as an early childhood educator. During my first three years of teaching in a kindergarten classroom, I came across amazing samples of inventive spelling. From the scribbles of the first few days of class to the complete sentences written at the end of May, the development of my young writers was incredible. I soon began to realize that I could learn much about students' literacy skills by examining their writing. Their emerging writing samples also became valuable forms of assessment and evaluation information to share at parent-teacher conferences as well as for determination of what to be taught during writing lessons in the classroom. I wanted to examine research regarding the use of inventive spelling in the early childhood classroom and to share these important findings with others. Specifically I wanted to study how to best help develop my young students' spelling and writing skills.

In this section I will be discussing the methods used in conducting this literature review. This section will begin by discussing the methods used for identifying and locating sources used in this review of literature. I will then provide a rationale for selecting the sources to analyze and the procedures used in analyzing the sources. Finally, this section will provide criteria for evaluation of the information found.

#### *Methods Used for Identifying and Locating Sources*

This review focused on research on using inventive spelling in early childhood classrooms. To complete this review I collected articles from a variety of sources. I conducted computerized bibliographic searches on the Internet from the Educational

Research Information Clearinghouse (ERIC) hosted by the Elton B. Stephens Company (EBSCO) and Wilson Web. Some full text articles were found from these searches and printed. I also examined abstract and citation archives. For sources in which the full text was not available online, I obtained many full text articles through the Rod Library on the University of Northern Iowa campus. I also completed library searches from the Rod Library at UNI. This resource provided a vast majority of my sources. I was able to find journal articles in back issues and numerous books on the topic of inventive spelling and spelling in the classroom. I also collected articles and books from reference lists and literature reviews that I found during my initial searches and again retrieved these materials by either ordering them from Rod Library or finding full text versions at the library.

Various key words and combinations of these words were used to conduct searches. I used the following keywords and combinations of words in my searches: *inventive spelling, spelling development, spelling instruction, traditional spelling methods, reading development, phonemic awareness, spelling stages, language development*, etc. These terms provide a comprehensive overview of the main ideas of my review and are frequently found in literature. They also represent the terminology in recent years of spelling instruction. These keywords provided for a search of traditional work in the area of spelling instruction while still incorporating the more novel practices of instruction today.

#### *The Rationale for Selecting the Sources to Analyze*

Initially over 70 books and articles were examined. Numerous articles were read to increase my background knowledge of the topic and to find information that pertained

to the specific research questions I posed. I wanted to get a comprehensive list of sources to help me better understand spelling instruction in the early childhood classroom.

In order to be included in the review of the literature, the sources had to include the topic of inventive spelling. I also looked at sources that compared the use of inventive spelling to other areas of my review such as literacy development and language development. Initially I began searches for articles just pertaining to inventive spelling. I then broadened my search to include some articles on traditional spelling in order to compare the two methods. I felt that by reading articles and books on both methods of instruction I would provide a more complete picture of spelling instruction and the benefits of using inventive spelling.

Another requirement for sources to be included in this review was that the subjects in research studies had to be in preschool through second grade classrooms. Thus articles concentrating on students above second grade were not included. However, some books and articles divided ages of students up and provided information on the different groups. These sources were used; however, just the information pertaining to the students second grade or below was included.

Finally, the sources had to be of high quality. They had to be both rigorous in nature and come from quality sources. To ensure this I used articles from refereed sources. I also looked for works (books) authored by leading researchers in the field and made sure other articles included these leaders in their reference section.

From the initial 72 sources, 43 books and articles were chosen to be used in the review of literature. The articles were coded or sorted according to the following areas: comparison to traditional spelling methods, explanation of development, comparison of

inventive spelling to other forms of literacy development, environment, parental concern, or best practices. Some fit into more than one category. I looked at similarities and contrasts in information on these topics and came up with a better understanding of using inventive spelling in the classroom and best practices.

Ideally my review would include all significant research of inventive spelling. However, I understand my review is limited and is not complete because I only used Rod Library. Not every source I wanted was available there or online. In addition, I recognize oversight and error on my part could also impart my findings.

#### *The Procedures Used in Analyzing the Sources*

Analysis of the selected books and articles focused on three domains: 1) the use of inventive spelling in preschool through second grade classrooms; 2) the relationship between the use of inventive spelling and other areas of literacy development; 3) the best practices for implementing inventive spelling in early childhood classrooms. The following discussion will cover the specific criterion utilized within each of these three domains.

#### *The Criteria For Evaluating the Information Found*

First, since I was examining the use of inventive spelling in early childhood classrooms, it was crucial that the participants included in my sources were in preschool through second grade only. Also, if teachers are going to use a method in their classroom, they want to know that is going to work and be beneficial. Teachers are seeking methods that are based on research. I searched for sound research on the topic of inventive spelling. As I examined articles and books I found rigorous studies that compared the use of inventive spelling to more traditional approaches. These studies



were critical because most teachers today are using these traditional methods and may not yet see the benefit of inventive spelling. They will also want to know that inventive spelling could enhance their students' growth in other areas. I looked at how invented spelling connected to development in other areas, which is explained in the next section.

*The relationship between using inventive spelling and other areas of literacy development.* Initially I found spelling to be perceived as a developmental process. The idea of spelling stages was prominent in much of the research I found. Therefore I looked for specific explanations of these spelling stages. Upon examining the developmental nature of spelling itself, I found that spelling development coincides with students' development in other areas such as language development and other literacy skills.

Phonemic awareness is considered one of the best predictors of future reading success and has a strong connection to reading and developmental writing (Mann, Tobin, & Wilson, 1987; Tangel & Blachman, 1992). Therefore I looked for studies that compared inventive spelling development to other areas of literacy development. I specifically looked for articles that compared children's phonemic awareness abilities to the ability to complete inventive spelling. Also because of the strong reading/writing connection I reviewed studies that examined the connection between students' reading scores and the abilities in inventive spelling.

*Best practices.* Finally I wanted to be able to help myself and other teachers use the best practices when implementing inventive spelling instruction in our classrooms. I wanted to give other teachers suggestions and activities they could easily implement into their classroom. Knowing the value of these suggestions I felt it was important that I

identified best practices for implementing inventive spelling into classrooms. I examined many sources that had practical everyday tips about how to implement inventive spelling in the classroom. It was important that these methods were research based and/or suggested by leaders in the field. I read books by many leaders in the field and looked for suggestions that were present in many of these resources. I chose strategies and activities that were present in multiple sources.

## CHAPTER THREE

### ANALYSIS AND DISCUSSION

This review focused on the use of inventive spelling as a method for spelling instruction in early childhood classrooms. I conducted this review of literature to answer my question: Should inventive spelling be an instructional practice used in early childhood classrooms? First, I provide an overview of inventive spelling and the developmental characteristics and stages children go through in becoming conventional spellers. My second question is then considered: What is the relationship between inventive spelling development and other areas of children's literacy development? The comparison of spelling development to other areas of literacy development will be examined, specifically comparing it to development of phonemic awareness skills and reading. Finally, I consider the question: What are the best practices for using inventive spelling in the classroom? I examine the environment most conducive to using inventive spelling, as well as the best practices for using inventive spelling in an early childhood classroom.

#### Overview of Inventive Spelling

This section provides a general overview of the concept of inventive spelling. The term *inventive spelling* will be defined and developmental characteristics and stages children typically demonstrate will be briefly described.

When prereaders and beginning readers begin to spell words, they do so using symbols they associate with the sounds they hear in the words they write. This type of writing refers to inventive spelling (Clarke, 1988). When young children engage in inventive spelling they are not required to spell words correctly. In fact, they need only

the most basic understanding of how to break words into segments to do inventive spelling (Tangel & Blachman, 1992). When a child becomes aware of a word's internal structure, he or she can begin to use inventive spelling. In fact, the creation of invented spellings by young children is an indication they have started to develop an awareness of the internal structure of words or phonemic awareness (Tangel & Blachman, 1992). Mann (2001) discovered that by the middle of the kindergarten year most children can complete some form of spelling although there is a great variety in their attempts.

When using inventive spelling, there is not a right answer in the teacher's head that a child has to provide. Instead, spelling is something children figure out for themselves according to how they perceive words (Chomsky, 1971a, 1971b; Wilde, 1992). Instead of memorizing correct spelling, students formulate hypotheses about the spelling of words and test those hypotheses through attempts at spelling words (Gentry, 1987; Zutell, 1980). Wood (1982) describes inventive spelling as a problem solving process. Children create generalizations or rules, test them, and then change the rules to incorporate what they have learned or experienced. As Gentry (1987) states, "When kids invent spellings, they think about words and generate new knowledge. Emerging spellers need to invent, because inventing makes them think and learn" (p. 17). Children explore patterns in words and talk about what they notice. They take ownership of their knowledge of spelling (Wilde, 1996a). Zutell (1980) states:

Furthermore, classroom practices like extensive phonics drills and the typical weekly spelling lists-test cycle hardly encourage essential active participation and concept formation. It would seem more profitable to construct learning environments in which children have the opportunity to formulate, test, and

evaluate their own hypotheses about the orthography. Such environments might logically include activities which encourage and stimulate natural language use through extensive speaking, reading, and writing as means of communication and expression. (p. 64)

This constructivist emphasis fits into Piaget's (1973) schematic theory. Children build different schema for objects in their minds. When they are presented with something new they either have to assimilate the new information into existing schemata or accommodate by creating a new schema. Students also create schema for spelling (Wilde, 1992). Their schema for certain spelling topics develops just like their schema for other areas or concepts in life. In this way children must assimilate or accommodate new information they learn about spelling

### Spelling Development

Spelling development is closely related to students' language development, especially students' early attempts at inventive spelling (Beers, Beers, & Grant, 1977; Gentry & Gillet, 1993; Holbrook, 1983; Lombardino, L.J., Bedford, T., Fortier, C., Carter, J., & Brandi, J., 1997; Templeton, 1980; Wilde, 1990, 1992; Wood, 1982). This section examines the similarities between language and spelling development. Spelling and speaking are both language functions and spelling and language both develop in stages.

Wilde (1990) compared children's inventive spellings to their early attempts at learning to speak. Just like a child's early attempts to speak, children's invented spellings show gradual progression until correct writing is reached. Although adults can support children in their development of adult speech, children proceed at their own pace (Wilde,

1990). Gentry and Gillet (1993) further this connection by stating, “This is no coincidence; speech and writing are both language functions. Both are built on *imitation, intervention, interaction, and risk taking*” (p.14). Forester (1980) compared the stages of spelling to the stages children go through when learning to speak. Forester (1980) found that in both cases children vary in the length of time they spend at each stage and children will progress through the stages at their own rate. Children begin their speech with babbling just as they begin writing with scribbles (Forester, 1980). This is an important form of practice. Parents and adults should model correct writing just as they provide correct models of speech when their baby babbles. When the child moves to one letter spelling, parents and adults should realize that one letter represents more than a single phoneme just as one word represents a whole sentence when children are first beginning to talk. As children’s writing matures they omit certain letters and words just as they leave out certain parts of speech when learning to talk. Leaving out letters and words does not always affect the meaning of writing, just as parents can understand their baby when he or she leaves out certain words when they are talking. Children also define rules for their writing that may not always conform to adult rules. For example, they may misrepresent some phonemes or overuse *magic e*. This overgeneralization is also witnessed when students use words such as *mices* in their speech. Given time spelling, like speech development will become conventional (Forester, 1980).

Children’s spelling development is also very systematic in nature (Beers et al., 1977; Beers & Beers, 1991; Chomsky, 1971a; Mann et al., 1987; Read, 1971; Wilde, 1992; Wood, 1982; Zutell, 1980). This section examines the systematic nature of

spelling and the stages of spelling development as described by Henderson (1985) and Gentry (1982).

### *Systematic Nature of Spelling Acquisition*

Children's writing development is very systematic in nature (Beers et al., 1977; Chomsky, 1971a; Read, 1971; Zutell, 1980). Two of the leading researchers in the field, Read (1971) and Chomsky (1971a) discovered when analyzing children's early writing a system or consistency in children's inventive spellings. Read (1971) found that almost all children come up with a similar self-created *system* for their inventive spelling. Each child in his study arrived at roughly the same system, using certain spellings that seemed implausible to parents and teachers. In the classroom I too have seen students create spellings that, although incorrect, are uniform among children. Even though adults cannot always understand these unique spellings, children can explain them based on their system or understanding of the English language (Beers et al., 1977; Chomsky, 1971a, 1971b; Read, 1971). Chomsky (1971a) too found seemingly bizarre spellings of children to actually represent a system of abstract phonological relations of which adults are quite unaware. Working with an inadequate number of symbols, children reach solutions to this dilemma in much the same way. For example, they fail to represent certain phonetic features they do have the alphabetic means to represent (Chomsky, 1971a). Specific examples of the system all children seem to follow include (a) representing sounds using letter names, (b) omitting *n* and *m* before consonants, and (c) using no vowels when spelling syllables with *l* and *r* (Mann et al., 1987). Zutell (1980) found that as grade level increased the sophistication in a child's systematic approach to spelling also increased. Children came to possess more sophisticated strategies for

dealing with English orthography (Zutell, 1980). Adults may not fully understand this systematic approach children use; however, until adults better understand it, they should respect the system and attempt to work with it (Read, 1971).

The systematic nature of inventive spelling also supports the concept of spelling stages. Clear and qualified descriptions of developmental stages are needed in order for teachers to reach their full potential for using invented spelling in assessment (Gentry, 1982, 2000). Gentry (1982) and Henderson (1985) describe stages that children go through in their spelling development. In this section descriptions of both Gentry (1982) and Henderson's (1985) stages will be provided.

### *Stages of Spelling Development*

Gentry (1982) describes five stages for developing spellers. In the first stage, the *precommunicative stage* children use letters to represent words. However, the use of the alphabetic principle is not present. That is, children at this stage do not yet understand that certain letters or combinations of letters represent phonemes. In the second stage, the *semiphonetic stage*, children begin to represent letter-sound correspondence. The *phonetic stage* is the third stage in which children completely represent the sound structure of the word being spelled. This does not mean, however, that all of their representations are conventional. The fourth stage is the *transitional stage* where children turn from their great reliance on phonology or sounding out to a more visual representation. Finally, children move through the *correct stage*. In this stage spelling is mostly conventional (Gentry, 1982).

Henderson (1985) also describes five spelling stages students progress through. The first stage is the *preliterate stage*, which takes place between ages one and seven.



During this stage children become interested in written language and begin to scribble and imitate writing. Children in this stage begin to learn their letters, identify pictures, and experiment with the concept of a word. It is not until they acquire an understanding of what a word is that they can move on to formal spelling instruction. This conceptual understanding of a *word* helps children move to Henderson's (1985) second stage.

Stage 2 refers to the *letter naming stage* that occurs when children are between the ages of five and nine. In this stage students use letter names to help them complete invented spellings. They listen for the sounds in words and often represent consonants more frequently. Children also make incorrect substitutions when representing short vowels. Some specific characteristics of this stage are leaving out consonants *m* and *n* when they come before the final consonant in a word and confusion when spelling medial sounds represented by *d* and *t*, as in the word *ladder*. Most high frequency sight words such as *the*, *when*, etc. are also spelled correctly at this stage.

In Stage 3, the *within-word pattern stage*, children between ages six and twelve continue to spell most high frequency sight words correctly. The silent *marking* vowels are used, such as the use of *e* at the end of the word *cane*. Short vowels are also correctly used on a regular basis. In this stage, "no longer is it sufficient to think of words as letters matching sounds one at a time, but patterns of letters must be seen in relation to elements of sound" (Henderson, 1985, p. 53).

The fourth stage is called the *syllable juncture stage*. The main concept of this stage is the common spelling rule- "When a suffix beginning with a vowel is added to a final syllable having a short vowel followed by a single consonant, that final consonant is

doubled unless the accent falls on the antepenult” (Henderson, 1985, p. 66). This stage takes place between the ages of 8 and 18.

The final stage described by Henderson (1985) is the *derivational constancies stage*. In this stage, the meaning of words influences the spelling of them. This stage begins when children are around age 10 and continues into adulthood (Henderson, 1985).

### Comparison of Spelling Instructional Methods

Inventive spelling methods greatly contrast the traditional methods widely used in spelling instruction in today’s classrooms (Clarke, 1988; Wilde, 1990). This section will begin with a description of traditional spelling instruction. It will then examine studies that have compared the effectiveness of inventive spelling to more traditional methods. Increased engagement in writing and more meaningful writing are benefits of inventive spelling that are discussed.

#### *Overview of Traditional Spelling Instruction*

Clarke (1988) refers to traditional methods of spelling instruction as *memorization models*. These are the types of instructional methods used in most early childhood classrooms. The primary goal of traditional spelling approaches is that students learn to spell 10-20 words a week or 400 words a year. By the time a child leaves school they have memorized thousands of words (Wilde, 1990). In more traditional methods of spelling instruction words are usually taught in groups or lists of words. Words are grouped according to their spelling patterns to help students remember the words and apply the patterns to new words (Wilde, 1990). Unfortunately, students are not taught when to apply the rules and little attention is given to the fact that the rules have limited accuracy (Wilde, 1990). Textbooks provide exercises for children to practice the rules

and opportunities to write the words weekly so they can memorize them. The task of writing and practicing the weekly words can be extremely monotonous. Weekly tests are administered where students are tested not on their ability to apply spelling rules, but instead on their ability to spell the words covered on their weekly spelling lists (Wilde, 1990). “Research studies support the use of formal spelling instruction only if it consists of a systematic and logical program of word study that includes: introduction of spelling vocabulary, phonics, prefixes, suffixes, word endings, compound words, homonyms, word origins, proofreading, and dictionary skills” (Gentry, 1987, p. 10).

These traditional methods just described are used in many classrooms today. However, when inventive spelling is used there is increased engagement in writing because writing becomes a more meaningful task. In the next section I describe the benefits of using inventive spelling in early childhood classrooms.

### *Benefits of Using Inventive Spelling*

Inventive spelling reduces children’s fear of writing because they are not always pressured to have the right answer (Chomsky, 1971a; Clarke, 1988; IRA, 1998; Wilde, 1996 a, 1996b). This reduction of fear and not being limited to writing only words they know how to spell or can find the right spelling for leads students to write more through the following strategies (Chomsky, 1971a; Wilde, 1992). Using knowledge of the sounds they hear in words, students possess the ability to write any and all words (Chomsky, 1971a). Even young children who do not yet read can spell words using letter names or sound-symbol correspondence (Chomsky, 1971a). Thus, young children are able to compose words and messages on their own (Chomsky, 1971a).

When students are asked to write for meaningful purposes such as writing a story, making a list, labeling, or writing a letter, using inventive spelling is done for real and authentic purposes (IRA, 1998). Spelling becomes a meaningful task, not merely one for handwriting practice or to provide right answers on a test (IRA, 1998). Students spend more time writing and getting their thoughts down on paper (Chomsky, 1971a; Clarke, 1988; Forester, 1980, IRA, 1998). They spend less time finding how to spell a word correctly (Clarke, 1988). Forester (1980) found that in environments where children are allowed to develop their spelling skills naturally, meaning was the most important aspect of writing. The sounds and symbols used to represent those words were not as important. Students wanted to write to communicate, not to get the right letter for the sound. Forester (1980) states, “The learner internalizes patterns and structures rather than discrete elements” (p. 190). Students complete this type of spelling for their own purpose, as a means of self-expression, not because someone has taught them to do so (Chomsky, 1971a, 1971b; Forester, 1980).

When Clarke (1988) compared the writing of children using inventive spelling to those using more traditional methods, she found that the writings by children using invented spelling were significantly longer and contained a greater variety of words. Children using traditional spelling spent twenty-five percent of their time using aids, such as dictionaries, readers, wall charts, or friends to help them spell a word. They merely found the correct spelling and copied it. However, those using inventive spelling only spent four percent of their time searching for correct spellings. Also, children mirroring traditional spelling strategies spent eighteen percent of their time waiting for the teacher’s help compared to only 1.2 percent for children using inventive spelling (Clarke, 1988).

Clarke (1988) states, “Children using inventive spelling tended to work on their stories until time was called, in contrast to children using traditional spelling who sometimes finished their writing before the allotted time and went on to another activity” (p. 290).

One contradictory finding was that students who used inventive spelling had a significantly smaller percentage of spellings at the *correct stage* (Clarke, 1988). Those using inventive spelling had 58.4 percent of words at the correct stage whereas students using traditional spelling methods had 94 percent of words at the correct stage. However, children using invented spelling clearly had developed some understanding of the spelling system even though their written productions showed no increase in the percentage of correct spellings. In addition, children using invented spelling attempted to spell significantly more of the words on the selected words list than did children using traditional spelling (Clarke, 1988).

Another element that makes spelling more meaningful is when it is connected to other areas of the curriculum. In more traditional methods spelling is taught as a separate subject during a separate part of the day. The use of inventive spelling advocates connecting spelling to other areas of the curriculum and embedding spelling instruction into other topics (Callaway, McDaniel, & Mason, 1972; Forester, 1980; IRA, 1998; Wilde, 1990, 1996a). This provides a more meaningful and comprehensive context for teaching spelling. By using inventive spelling throughout the school day, children learn to use reading and writing for multiple purposes (IRA, 1998). The International Reading Association (1998) supports the integration of writing across content areas. By using writing throughout the school day, children engage in reading and writing for many purposes while learning about topics that are meaningful to them.

Callaway et al. (1972) conducted a study comparing five methods of teaching language arts instruction. In Method A, students were taught to spell words using games and drills from a list of words created from their basal. In Method B, students were taught a list of words unrelated to their basal. In Method C, students were encouraged to write stories relating to the stories in their basal, but no other emphasis on spelling was given. In Method D, students were encouraged to compose stories and wrote regularly; however, the stories they created were unrelated to their basal. In Method E, students responded to basal stories through art activities such as drawing and sculpting. Results concluded that Method C, where students were encouraged to write stories related to their basal, with no other emphasis on spelling, was most beneficial. Callaway et al. (1972) states:

...it appears that supplemental instruction in composition developing stories related to the content of the readers (treatment three) is the most successful. Conversely, directly teaching the spelling of words which were not necessarily met in reading or used in composition was associated with significantly lower scores in spelling. Teaching spelling “for its own sake” and without relationship to other written language instruction appears to be a poor practice. (p. 1244)

Callaway et al. (1972) goes on to say, “Learning to spell a list of words not related to the other written language instruction apparently contributed neither to good spelling achievement or to good reading achievement” (p. 1244). The researchers found that when spelling instruction was not correlated with the reading program and when students’ writing was not related to the reading program, the conventions of written

language were not learned as well as when these connections are in place (Callaway et al., 1972).

Craig (2006) conducted a study comparing an interactive writing-plus group to a metalinguistic games-plus group. The interactive writing-plus group completed interactive writing in connection with a text they read together. Activities included shared texts, written responses to reading, and related word building activities. Lessons for this group were based on the needs and written responses of students. The metalinguistic games-plus group played games in the area of phonemic awareness that were not connected to texts. They completed lessons from a step-by-step program called *Phonemic Awareness in Young Children: A Classroom Curriculum* by Adams, Foorman, Lundberg, and Beeler (as cited in Craig, 2006). Activities included segmentation and letter-sounds activities. Craig (2006) found that when students were provided instruction in writing connected to texts there was a marked improvement in their reading over those students who were instructed in game like activities of phonemic awareness not connected to texts. The mean score for word identification for the interactive writing-plus group was 14.65 and for the metalinguistic games-plus group the mean score was 9.48. Tests results indicate a statistically significant main effect  $F(1, 81)=6.77, p=.011$ . Craig states, “The results from the word identification and passage comprehension measures also suggest a link between children’s practical applications of phonic analysis in writing and their early reading acquisitions” (p. 726).

## Relationship of Inventive Spelling to Other Aspects of Emerging Literacy Development

Inventive spelling relates to other areas of young children's development. This section describes how inventive spelling relates to the development of students' phonemic awareness skills and reading ability.

### *Phonemic Awareness Promotes Inventive Spelling Development*

One of the prerequisite skills students need to engage in inventive spelling is phonemic awareness or the understanding of the internal structure of words (Chomsky, 1971a, 1971b; Clarke, 1988; Griffith, 1991; Mann et al., 1987; Richgels, 1995; Silva & Alves-Martins, 2002; Tangel & Blachman, 1992). "The task of reading and writing an alphabetic language makes the most sense when beginning readers are aware that words can be broken down into phonemes" (Mann, 2001, p. 259). In order to spell, a child must be able to break words into phonemic segments and then choose a symbol from the alphabet that corresponds to a particular segment of sound (Mann et al., 1987; Tangel & Blachman, 1992). Ball & Blachman (1991) found that in preschool, kindergarten, and first grade the children with the weakest segmentation skills were likely to be among the poorest readers and spellers. Invented spellings by young children were an indication that they had started to develop an awareness of phonemic segments represented by an alphabet (Tangel & Blachman, 1992). This section first examines the relationship between students' phonemic awareness skills and spelling performance and is followed with a discussion of the reciprocal relationship that exists between phonemic awareness and inventive spelling.



*Relationship Between Phonemic Awareness Ability and Spelling Ability*

Griffith (1991) divided the first grade participants in her study into high and low phonemic awareness groups. She found students in the high phonemic awareness group, those who scored one or more standard deviations above the mean, were better spellers than students in the low phonemic awareness group (Griffith, 1991). Students with high phonemic awareness ability appeared better able to complete an analysis of the words they spelled, as indicated by their tendency to represent vowels with letter symbols (Griffith, 1991). Subjects in the low phonemic awareness group tended not to represent as many vowel sounds. They were also unable to produce as many consonant sounds in their writing, an easier task than representing vowels. Children with low phonemic awareness demonstrated inventive spellings far less like the target words than the inventive spellings of children with high phonemic awareness. Thus, Griffith (1991) concluded that phonemic awareness promoted the production of inventive spelling.

Richgels (1986) conducted an experiment to, in his words, “determine whether- as seemed probable- some alphabet knowledge is related to invented spelling ability and whether- as seemed improbable- an extreme degree of ‘meta phonological awareness’ is a prerequisite to invented spelling” (p.42). He gave 4-6 year old students alphabet knowledge tests, “how alike” tests, and tests of reading and spelling. The “how alike” tests were tasks based on letters that made the same sounds. These tasks measured students’ conscious awareness that letters represent sounds. Richgels found that students did not have to score well on the “how alike” tests to spell words. Richgels (1986) concluded that although children did not need an extreme awareness of the letter-sound correspondence, such basic knowledge is helpful. Students did need to be able to

discriminate between the small segments of sounds in words and studying this discrimination helped develop students' abilities to read and write (Richgels, 1986).

Ball and Blachman (1991) conducted a study in which they divided students into three groups: a phonemic awareness training group, a language activities group, and a control group. The phonemic awareness training group received training in activities in which they moved disks marking phonemes in words, segmentation activities, and letter-naming and letter-sound training including hand clapping, rhythm games and initial sound cards. The language activities group was instructed in general vocabulary development, listening to stories, and learning semantic categorization. They also received instruction in the same letter-sound and letter-name activities as the phonemic awareness training group. The control group participated in regular kindergarten activities. Ball and Blachman (1991) found that the phonemic awareness training group outscored the other two groups in measures of phonemic awareness, reading, and spelling. For phoneme segmentation, results from an ANOVA test of effect showed statistical significance,  $F(2,86) = 26.32, p < .0001$ . After interventions students also took the Woodcock Word Identification Test. This test assigned students as readers (scores of 4 or more) or nonreaders (scores lower than 3). Results were 19 nonreaders and 10 readers in the phonemic awareness training group and 26 readers and 4 nonreaders in the language activities group. Results were significant  $\chi^2(2) = 8.4, p < .05$ . Finally, performances on the spelling tests were also significant. Results from an ANOVA computed on the spelling test that asked students to spell words from a phonetically regular word list were significant,  $F(2, 86) = 6.31, p < .01$ . There were also statistically significant differences in developmental spelling scores,  $F(2, 86) = 9.41, p < .001$ . Ball

and Blachman (1991) concluded that it is important to include letter-name and letter-sound activities in connection with phoneme awareness activities. Ball and Blachman (1991) state:

To read or spell phonetically regular words, a child must be aware that words can be broken into phonemes and that each phoneme corresponds to a symbol (or symbols) in our orthography. Our data suggests that the children who received training in phoneme segmentation and in letter-names and letter-sounds were more able than the children in either control group to match the written symbol to the sound segments of the word. (p. 63)

Thus this study supports the belief that phonemic awareness increases one's ability to create inventive spellings and this ability is especially strong when phonemic awareness is taught in conjunction with letter-sound and letter-name skills.

In Tangel and Blachman's (1992) study, children in the treatment group who participated in phonemic awareness intervention produced inventive spellings rated developmentally superior to those of children who had no intervention. The inventive spellings of the treatment group were more sophisticated, indicating that after phoneme awareness instruction, they had significantly greater skill in dealing with the complex task of inventive spelling (Tangel & Blachman, 1992).

### *Reciprocal Relationship*

The relationship between phonemic awareness and invented spelling is considered by many researchers to be reciprocal (Bear et al., 2004; Gentry, 1991; Griffith, 1991; Richgels, 1995; Silva & Alves-Martins, 2002; Tangel & Blachman, 1992). As children write their skill at focusing on phonemes in words increases (Griffith, 1991). Clarke

(1988) discovered that children using inventive spelling had superior spelling and phonemic analysis skills.

In the Craig (2006) study comparing an interactive writing-plus group to the metalinguistic games-plus group described in the previous section, Craig concluded, "... it appears that writing instruction that supports children's invented and conventional spellings provides a rich context for the developing phonological awareness and alphabetic knowledge they will need for early reading" (p. 726). Students in the writing-plus group wrote words by analogy more than did students in the metalinguistic games-plus group despite the fact that they were trained in blending sounds and onset and rimes. Craig (2006) says of these findings:

This is particularly interesting in light of the fact that the metalinguistic games-plus tutors provided the explicit instruction in blending sounds and onset-rime units beginning first with spoken words and then incorporating print. In contrast, the interactive writing-plus tutors developed blending at the point of need during writing and word building. Although the interactive writing-plus children did not receive explicit instruction in blending, they demonstrated more advanced word reading development using phonemes, intrasyllabic units, and syllables to recode unknown words. (p. 726)

Silva & Alves-Martins (2002) conducted a study with two groups of five and six year olds receiving three types of instruction. The control group classified geometrical shapes. The *writing training program* group was asked to spell a set of words to the best of their ability. They were then shown the same words spelled by a hypothetical child. The students in this group had to compare the two versions to tell which was best. The

purpose of this instruction was to lead children with presyllabic writing to move to syllabic writing. The *phonological training program* group was instructed with oral and aural exercises of identification, segmentation, and manipulation of syllabic units and did not include any writing of words. These activities were administered in a game like fashion. They found that both experimental groups improved in their writing skills. They also found statistically significant improvement in the phonological task scores of both treatment groups. To assess the effect of training on the various treatment groups an ANOVA test was computed. In addition a post hoc analysis using a Tukey test was also used as well as the Games-Howell procedure. Both treatment groups improved equally well in the areas of the initial-syllable classification test and there was statistically significant improvement between the two evaluation moments  $F(1, 68) = 68.84, p = .001$ . There was also statistically significant improvement on the initial-phoneme classification test for the moment,  $F(1,68) = 46.72, p = .001$ , for the group,  $F(2,68) = 16.38, p = .001$  and for group x moment interaction  $F(2,68) = 9.72, p = .001$ . On the initial-syllable deletion test there was a statistical significance between pretest and posttest moments  $F(1,68) = 202.44, p = .001$ , for group  $F(2,68) = 8.48, p = .001$  and for moment x group interaction  $F(2,68) = 14.05, p = .001$ . However, the phonological training group improved much more than the writing training program group on the test of initial-phoneme deletion test. The mean score for the phonological training group was 13.78 while the writing training group only had a mean score of 3.95. Results were significant between pretest and posttest  $F(1,68) = 29.95, p = .001$ ; group  $F(2,68) = 13.52, p = .001$ ; and for moment x group interaction,  $F(2,68) = 20.43, p = .001$ . Silva and Alves-Martins (2002) concluded that their writing training program that asked for the inventive spellings

of young children, “not only leads presyllabic children to progress in their invented spellings, but also improve their phonological skills” (p. 478). Their study confirms a reciprocal relationship between invented spelling and phonological awareness skills. They also confirmed that these areas begin to influence one another early on. Therefore, it is important as educators to examine these elements in the context of an early childhood classroom (Silva & Alves-Martins, 2002).

### *Connections Between Reading Development and Inventive Spelling*

In addition to assessing and promoting phonemic awareness, inventive spelling can also be used to assess and promote reading development (Bear, et al., 2004; Chomsky, 1971a, 1971b; Ehri & Wilce, 1987; Richgels, 1995). Bear et al. (2004) describe this as synchrony of reading, writing, and spelling development. “This means that development in one area is observed along with advances in other areas” (Bear et al., 2004, p. 21). Furthermore, once there is an adequate system to analyze inventive spelling, it can be a valuable assessment tool to determine a child’s future reading ability (Chomsky, 1971a, 1971b; Ehri & Wilce, 1987; Richgels, 1995). This section will examine how reading acquisition stages closely align with spelling acquisition stages. It will look at the reciprocal relationship between reading and spelling development and the findings that indicate good spellers are also good readers.

### *Developmental Stages*

In their book, Words Their Way, Bear et al. (2004) compared the stages of spelling to those of reading. During the *emergent or prephonetic spelling stage* students are emergent readers. In this stage they scribble or make forms that look like letters, but are random. Children may recognize a name by the first letter or a fast food restaurant by

the symbol, although they are attaching no phonetic meaning to the letter and may even call the letter their name starts with *my letter*. Reading and writing at this stage are *pretend* (Bear et al., 2004).

In the *letter naming or alphabetic spelling stage* students are considered beginning readers and have begun to understand the alphabetic principle or the concept that letters represent sounds (Bear et al., 2004). They also benefit from the use of predictable books. Students then become *transitional readers* during the within word pattern spelling. In this stage, students move beyond spelling single letter representations. They use patterns such as word families and both onsets and rimes to spell words. They begin to be able to read more material on their own and don't rely as much on predictable books (Bear et al., 2004). *Intermediate readers* are in the syllables and affixes spelling stage.

Finally, during the *derivational relations spelling stage* a student becomes an advanced reader. During these last two stages students have mostly automatic word recognition. They can read to learn, not learn to read and they can enhance their vocabulary (Bear et al., 2004).

### *Good Spellers are Typically Good Readers*

Success in spelling can determine how well one does in reading. Most good spellers are also good readers. Also, the reverse is true. Reading instruction and the act of reading can enhance spelling skills in young children. Chomsky (1971 a, 1971b) went as far as to suggest that children should direct their own development of reading by first attempting to write words familiar to them and then transferring this knowledge to reading. In fact, producing inventive spellings could actually help a child acquire

reading skills and become a better reader. According to Chomsky (1971a, 1971b), children are actually capable of inventive spelling well before they are ready to read; and children who create inventive spellings before formal instruction seem to be better prepared for reading instruction and in the long run become successful readers. Research studies that examined the relationship between inventive spelling and reading are described below.

Mann, et al. (1987) administered an inventive spelling test to kindergarten students and then administered a word reading test to the same children in first grade. They found that the phonological accuracy score on the inventive spelling test was correlated with scores on the word identification subtest,  $r(29) = .48, p < .004$  and the word attack subtest  $r(29) = .59, p < .0005$ . of the Woodcock Reading Mastery Tests. Mann et al. (1987) concluded that performance on a spelling test administered midway through kindergarten successfully predicted first grade reading ability.

When Clarke (1988) compared the writings of students in an inventive spelling group to those in a traditional spelling group she found children using inventive spelling were better at sounding out words. Clarke (1988) concluded that encouraging children to use inventive spelling appeared to support the shift from processing words visually toward using phonetic cue processing earlier than would otherwise occur when using a basal reading program.

Ehri and Wilce (1987) conducted an experiment in which they trained children in a treatment group to spell words while teaching children in the control group only letter-sound correspondence. The researchers found students trained in learning how to spell 12 meaningful words outperformed their control group who only learned the letter-sound



match for the same letters. Their findings indicated that teaching their treatment group to spell also improved their word reading skills. Young children who learned to produce phonetic spellings also become better able to recognize correct mapping relations between spellings and pronunciations. However, training did not improve the students' ability to blend. Ehri and Wilce (1987) hypothesized that this may be because students do not need to be able to blend to be able to spell words. It is more likely that they were doing phonetic cue reading. Because this recognition is part of what is involved in phonetic cue reading, it may provide the explanation for how learning to spell improved subjects' word reading skills. The children in the treatment group also outperformed the control group in spelling. They were better at symbolizing consonant clusters and they included fewer incorrect letters in their spelling. Ehri and Wilce state, "In sum, one can conclude from these results that spelling instruction promoted word reading skill in beginning readers, not by enabling readers to sound out and blend, but rather by helping readers to store words in memory using letter-sound association" (p. 61). One possible downfall of this study was Ehri and Wilce taught a specific list of words rather than analyzing children's spontaneous or self-motivated spellings. However, Richgels (1995) extended the work of Ehri and Wilce and achieved the same results using inventive spellers in kindergarten classrooms, rather than those created through experimental instruction.

Burns & Richgels (1989) measured the literacy skills of above average four year olds categorized as both non-spellers and inventive spellers. They found that inventive spellers were better at identifying consonant, short vowel, and individual sounds in words. The inventive spellers were also better at reading words in context and in

isolation. However, there was no difference between the groups in reciting alphabet letters, identifying letter names, breaking words into syllable, and demonstrating an understanding of concepts of print. The researchers also found that no non-spellers were proficient word readers; however, many inventive spellers were non-proficient word readers. The fact that not all inventive spellers were proficient words readers led Burns and Richgels to conclude that there must be something to “nudge one over the boundary between spelling and reading” that not all children identified as inventive spellers possess. Burns & Richgels concluded, “At this early stage of literacy development, then, word reading appears to be a very separate ability from word writing or spelling” (p.13). They are related skills, but also separate skills. Limitations of this study’s design were that only very bright students were studied and skills that may influence inventive spelling ability such as auditory discrimination were not looked at (Burns & Richgels).

### Best Practices

This section of the literature review will provide some suggestions for educators, parents, and others about the best practices for implementing inventive spelling at school and in the home. It is important that students are provided an environment where they can feel comfortable using inventive spelling (Chomsky, 1971a; Gentry, 1987; Gentry & Gillet, 1993; Henderson, 1985; Henderson & Templeton, 1991; Mann et al., 1987; Read, 1971; Snowball & Bolton, 1999). Teachers also need to be able to assess students’ inventive spellings and use what they learn from these samples to provide appropriate instruction (Bear et al., 2004; Beers & Beers; 1991; Chomsky, 1971a; Mann et al., 1987; Read, 1971; Snowball & Bolton, 1999; Scott, 1991; Tangel & Blachman, 1987; Wilde,

1992). The section concludes with suggestions for using inventive spelling in an early childhood classroom.

### *Open Environment*

Children require an open environment, without the fear of failure and constant correction of errors for writing both at home and at school (Chomsky, 1971a; Gentry, 1987; Gentry & Gillet, 1993; Henderson, 1985; Henderson & Templeton, 1991; Mann et al., 1987; Read, 1971; Snowball & Bolton, 1999). “Anything that makes spelling unpleasant, more difficult, or threatening makes learning to spell more difficult” (Gentry, 1987, p. 10). Students first have to believe they are capable of spelling and then will develop the skills needed to do so (Chomsky, 1971a). It is extremely important for children to trust their own linguistic perceptions, to understand they have a viable means for expressing them, and to get plenty of practice doing so (Chomsky). Chomsky (1971a, 1971b) found inventive spelling to be a self-motivated activity that best flourishes in an open classroom where there is self-directed activity, emphasis on the child’s own interests, a variety of materials, respect for individual endeavors, and children are allowed to progress at their own pace and according to their own rate of development (Chomsky, 1971a). In such an open environment there is an expectation that the child will learn to spell when they are ready (Chomsky, 1971a).

This open classroom, however, does not mean the teacher provides no direct instruction in spelling and simply lets it develop on its own (Chomsky, 1971a). The teacher must also play an active role and be ready to provide developmentally appropriate instruction when necessary. Teachers must give children access to conventional spelling, but not require it of them (Chomsky). Children get information from two sources when

they spell: (a) memory and (b) the use of the best approximation based on their knowledge of how words are spelled (Henderson, 1985). If teachers demand correct spelling in all cases children can become discouraged. Writing can become merely the copying words or using only those words in a child's memory. Students must be allowed to use inventive spelling in situations where they are being asked to attempt new words and get their thoughts on paper (Henderson, 1985).

This open environment is more than a philosophy. Physically such an environment should include environmental print in the form of charts, signs, posters, directions, lists, messages, labels, class-made books, books of both fiction and non-fiction, word walls, dictionaries, thesauruses, and materials needed to complete writing such as a space to write, paper, pencils, pens, markers, art materials, staplers, rulers, scissors, date stamp, magnetic letters, etc. (Snowball & Bolton, 1999). In my class students are very motivated by getting to use a marker or chalk on the board. I have found it valuable to always have an eraser or white out easily available. This allows for easy corrections of errors and helps students understand that it is ok if words are not perfect and it is ok to try more than one time to get it right. In addition, the classroom library should include class-made big books, as well as commercially purchased fiction and non-fiction books. Reference materials should also be included in the classroom library. Students should not always be isolated at tables and desks because they need to have a place where they can come together and work as a group to produce writings (Snowball & Bolton, 1999).

Beyond the classroom this confidence and open environment must extend to the child's home for he or she to get the greatest benefit of inventive spelling. The child's

parents or caregivers must also play a role in promoting inventive spelling (Chomsky, 1971a; Mann, et al., 1987; Read, 1971). Read (1971) found the children in his study most willing to do inventive spelling came from families possessing certain supportive qualities. In fact, Read discovered a supportive home environment seemed necessary for spontaneous inventive spelling to occur at all. Supportive families provided opportunities for children to write in a nurturing environment, responded to their children's interests, and accepted and enjoyed the results of their children's efforts to do inventive spelling (Read). Thus, parents must be tolerant and appreciative of their children's productions, while not pushing them to produce inventive spellings (Chomsky, 1971a). Mann (2001) speaks of support families,

Such families tended to promote freedom of expression, but their main distinguishing trait was their responsiveness to their children's interests and their acceptance and enjoyment of the spelling their children produced. The parents neither encouraged nor inhibited their children, but accepted and enjoyed their writing-reading it, hanging stories in their home or office, and so forth. They also did not transmit the attitude that spelling was an arbitrary, memorized feat. So an encouraging home environment is certainly one factor that must be recognized.

(p. 267)

Parents must also be tolerant for what appears to be *bad spelling* (Read, 1971). They must expect their child will eventually learn how to spell conventionally and not be afraid of the unconventional spellings they produce in the beginning (Chomsky, 1971a; Read, 1971). In addition, parents should be there to answer questions their children have and to provide conventional spellings upon children's requests (Read, 1971).

### *Assessment Informs Instruction*

Once the environmental conditions are in place allowing children to create inventive spellings, much can be learned from what they produce (Bear et al., 2004; Beers & Beers, 1991; Chomsky, 1971a; Mann et al., 1987; Read, 1971; Scott, 1991; Snowball & Bolton, 1999; Tangel & Blachman, 1987; Wilde, 1992). Understanding students' spelling development is important in providing appropriate instruction to meet their needs. This section examines how the assessment of students' inventive spelling can help provide appropriate instruction. Inventive spelling samples can be great *windows* or *snapshots* of what students know about spelling. When assessing these valuable pieces of information it is important that teachers and others follow three suggestions: (a) focus on strength, (b) involve the child, and (c) observe the whole event. When conducted correctly assessments can help determine what stage a student is at in order to plan and provide appropriate instruction.

#### *Windows of Children's Knowledge and Skills*

Because children must have certain skills and possess certain knowledge about literacy to produce inventive spellings, samples of children's writing can be great *windows* into their minds (Mann et al., 1987). Inventive spellings create an authentic representation of how children perceive the sound system of their language (Tangel & Blachman, 1992). Gentry & Gillet (1993) speak of the value of examining students' inventive spellings:

Each time a child or adult invents a spelling, he or she produces a telling snapshot of how the mind conceives of spelling. Each invented spelling is a permanent record of an individual's journey to spelling competence. If we collect these

snapshots, these invented spellings, and analyze them, we can put together a remarkable album that shows milestones along the way. Since the journey unfolds developmentally in patterns that are predictable and systematic, we can chart the journey with precision and accuracy. (p. 39)

### *How to Assess Inventive Spelling Samples*

*Focus on Strength.* When looking at these valuable pieces of information of students' inventive spelling it is suggested that evaluators focus on the positive and what the child can do (Gentry & Gillet, 1993; Scott, 1991). "Above all else, assessment for spelling should be a positive concept in the eyes of the student. The focus should be on accomplishment, with much less of the traditional emphasis on test grades" (Gentry & Gillet, 1993, p. 100). It is human nature to want to be praised, and in my experience I have also found that students are much more willing to create more inventive spellings if you are positive about their work. I try to find at least one positive aspect of the child's writing that indicates growth to comment on when they show me and a simple "good job" is not sufficient.

*Involve the Child.* Also when assessing students' inventive spelling you should involve the child in the process (Gentry & Gillet, 1993; Scott, 1991). Scott (1991) describes some downfalls of using traditional measures of spelling ability, "This 'medical model' of spelling assessment not only neglects the active involvement of the primary source of information, the child, but it also deprives the child of a sense of ownership in the findings" (p. 130). The child is the one who produced the spelling, so he or she is going to have the most accurate information about the choice of letters utilized. When doing an analysis of inventive spelling, Scott (1991) suggests looking at the child's self-

image as a speller, previous spelling instruction, interests and skills in reading and writing, ability to use a variety of strategies when spelling, logic when spelling, and physical problems which may contribute to spelling difficulties. In my experience the better I get to know the child and the more I look at their spelling samples, the more I understand where they are coming from and how I can help their spelling develop.

*Observe the Whole Event.* It is important to look at the whole inventive spelling event, not just the finished product (Hall & Hall, 1984). Much information can be learned in the act of doing inventive spelling. Hall & Hall completed a study in which two young girls produced inventive spellings. By simply analyzing the girls' inventive spelling samples, the researchers found random strings of letters that would categorize the students in the prephonemic stage of writing. However, when the actual act of the writing was watched and analyzed a highly developed system that made perfect sense to the girls was uncovered. Hall & Hall (1984) state, "A great deal of systematic thinking went into the letters selected. The system is clear once the process as well as the product are observed" (p. 826). Hall and Hall (1984) go as far as to suggest,

We may be missing a variety of possible stages by failing to look closely at the processes the young writers are using. The product of these early writing efforts has revealed several stages of writing. What additional stages might be identified if we more closely examine the processes children are going through as they take their first steps in writing? (p. 826)

The classroom teacher is at an excellent advantage to watch and analyze these events when children are given many daily opportunities to write (Hall & Hall, 1984).



### *Identify the Student's Spelling Stage*

Each stage of children's spelling development represents how the child conceptualizes inventive spelling in qualitatively different ways throughout his or her development (Gentry, 2000). By looking at a child's inventive spelling, one can determine what stage of spelling development a child is at (Gentry, 2000). Teachers can determine what a child understands about spelling and instruction can be modified to enhance their understanding and develop skills students have not yet mastered (Hall & Hall, 1994). Spellers are functioning in a particular stage when half or more of their invented spellings match the description for that particular stage (Gentry, 1982). Transition is usually abrupt in that once spellers invent a majority of their spellings at a particular stage, they are not likely to revert to an earlier stage (Gentry, 2000). This is valuable information as developmentally appropriate instruction can be given based on these findings. Teachers must understand each stage completely if they are to determine what stage their students are at; and then provide developmentally appropriate instruction to help them progress (Gentry, 1982, 2000; Hall & Hall, 1994; Wilde, 1992).

*Zone of Proximal Development.* A child's zone of proximal development is the area between what they can do independently and what they are incapable of doing (Vygotsky, 1962). It is the place where a child can succeed with support and will benefit most from instruction. Determining students' spelling stages through an analysis of inventive spelling samples can help teachers provide instruction at this level (Gentry, 2000; Gentry & Gillet, 1993; Scott, 1991; Snowball & Bolton, 1999).

Children cannot be taught correct spelling if it contradicts the system they have created. If a child spells *truck* with a *ch*, it will not help to tell him or her that *ch* spells

*chuh*, as in *chicken* (Read, 1971). It does not help to correct mistakes in their system until they are developmentally ready to understand their errors (Beers et al., 1977; Read, 1971). Instruction has to be given at a student's zone of proximal development (Bear et al., 2004; Invernizzi, Abouzeid, & Gill, 1994; Lombardino et al., 1997; Wilde, 1992, 1996a). A situation described by Chomsky (1971b) where a child has just spelled *wet* with an *r* at the beginning explains why students should not immediately be told that they have spelled the word wrong. Chomsky (1971b) states:

Had I said, "No!" when Harry chose the *r* and insisted on *w* (which corresponds to no reality for him), he would have gotten that sad message children so often get in school: "Your judgments are not to be trusted. Do it my way whether it makes sense or not; forget about reality." Far better to let him trust his own accurate judgments and progress according to them than to impose an arbitrariness that at this point would only interfere. (p. 297)

Chomsky (1971a, 1971b) realized that students cannot go their entire lives spelling words incorrectly. However, as the children develop their abilities and understanding of written words, their increased knowledge will help them spell the word *wet* conventionally.

This does not mean that adults have no affect on helping students develop their spelling ability. Of course children use information from adults when they are learning to spell by asking questions such as "How do you spell butterfly?" (Read, 1971). However, when children receive information from adults it apparently gets *filtered* through the child's own system, which exerts a powerful influence on what he or she writes (Read). Children will ask for and use information when they are ready to do so (Read, 1971).

Once children are ready, they can be given developmentally appropriate instruction to help them move through the spelling stages (Gentry, 1982).

The most beneficial type of instruction adults can provide is instruction at the student's zone of proximal development. This means children are encouraged to spell independently with a teacher intervening with instruction when the child is developmentally ready to benefit from this instruction (Ehri and Wilce, 1987). Craig (2006) also found benefit in a contextualized program that was responsive to the needs of the learner and had lessons based on their needs compared to a more prescriptive program that used predetermined lesson plans. Craig warned about using a program or approach that is scripted and not responsive to the development needs of the learner. She claimed that when using this type of program one "cannot and should not usurp the teacher as the instructional decision maker" (p. 727). It is important to determine the child's stage and provide developmentally appropriate instruction that will increase the child's ability.

### *Classroom Practices*

There are guidelines that can help teachers implement inventive spelling most effectively in their classrooms. This section will provide a variety of these ideas. The areas to be described include purposeful and authentic writing tasks, daily reading time, word study and word sorts, content area spelling, games, and modeling.

#### *Purposeful and Authentic Writing Tasks*

Purposeful and frequent writing tasks are essential when using inventive spelling in early childhood classrooms (Bear et al., 2004; Gentry, 1987; Gentry & Gillet, 1993; Henderson, 1985; IRA, 1998; Preen, 1991; Snowball & Bolton, 1999; Templeton, 1980; Wilde, 1992). Students learn more when they have to think about what they are spelling.

The act of completing authentic writing engages the learner in the task and makes the task meaningful (Gentry, 1987). Examples of purposeful or authentic writing tasks include: labeling, making signs, story writing, and writing lists, plans, songs, recipes, and letters (Preen, 1991). Children need to be given daily opportunities to write for many different purposes and for many different audiences (Gentry & Gillet, 1993; Preen, 1991; Snowball & Bolton, 1999; Wilde, 1992). Children encounter many more spelling opportunities, as they have to choose different words for different purposes. They also begin to understand that writing is more than dictating personal experiences in a journal, and they have opportunities to write for authentic audiences (Snowball & Bolton, 1999). Henderson (1985) does point out that although these opportunities are necessary as part of a spelling curriculum, merely giving students many opportunities to write will not teach them to spell correctly. These writing opportunities need to be carried out in connection with *incidental* and *informal* spelling instruction as well as a more direct study of spelling (Henderson, 1985).

### *Daily Reading Time*

One way to enhance the connection between spelling and reading development is to expose students daily to print and reading materials (Beers et al., 1977; Krashen, 1993; Snowball & Bolton, 1999; Wilde, 1990, 1992, 1996 a). Exposure to a variety of print and texts allows children to have access to correctly spelled words. As students read these correctly spelled words over and over they begin to internalize their correct form and then use the correct form in their writing. Being read to and reading also helps students learn about the concept of a word, one-to-one correspondence between spoken and written words, and the relationship between letters and sounds (Snowball & Bolton, 1999).

“Daily sustained, independent reading is absolutely essential for literacy development, including development in spelling” (Snowball & Bolton, 1999, p. 8). Beers et al. (1977) found that students could spell high frequency words better than low frequency words. They concluded that students were not transferring knowledge from words on lists to these low frequency words. Instead they suggest students should be given the opportunity to explore words in their reading and writing so that they can transfer knowledge of them (Beers et al., 1977). Examples of types of reading that should occur in the classroom include: uninterrupted sustained silent reading, big-book reading shared by teacher and students, independent student reading with support of the teacher, and reading classroom charts, lists, poems, and etc. (Preen, 1991).

### *Word Study/Word Sorts*

Word sorts and the study of words are valuable tasks that allow students to examine the spelling of words and create overall generalizations that they can apply in their own writing (Bear et al., 2004; Gentry & Gillet, 1993; Henderson, 1985; Invernizzi et al., 1994; Templeton, 1980; Zutell, 1980). The purpose of word study is to examine words and determine “consistencies within our written language system” to help students recognize, spell, and learn the meaning of words (Bear et al., 2004). Just like students compare and contrast objects and form ideas about concepts through the use of comparison and contrasting to the known; word sorts help students compare and contrast categories of word features and discover similarities and differences between categories (Bear et al.). “During word study, words and pictures are sorted in routines that require children to examine, discriminate, and make critical judgments about speech sounds, word structures, spelling patterns, and meanings” (Bear et al., 2004, p. 2). Students form

generalizations that help them figure out new words during reading. Word sorts are also highly motivating because they use manipulatives and students have to use analytical knowledge to actively engage in the sort (Bear et al., 2004; Invernizzi et al., 1994).

Word study should take place for 10-15 minutes daily (Bear et al., 2004). Word sorts can be used by both individuals and groups (Bear et al., 2004; Henderson, 1985). There are many types of word sorts that can be used. These include sound sorts, pattern sorts, and meaning sorts (Bear et al.; Henderson). Word sorts should be designed based on the student's stage of spelling and comprised of words that include specific pattern, sound, or meaning (Bear et al.). Words sorts can also be designed to master the various layers of English orthography (Bear et al.). For example, Zutell (1980) suggests sorting past tense words by first using those spelled with *ed* at the end, and then moving on to examining different past tense morphemic endings.

Once teachers decide what skills the sort will address, the words are chosen and written on individual cards or on a table that students can cut apart to make cards (Bear et al., 2004). Cards can be laminated for durability and should be stored in library pockets or envelopes. In this way words or pictures students use can be individualized and additional cards can be added as the child's abilities increase (Bear et al., 2004).

Sorting objects by color, shape, size, etc. are common activities in early childhood classrooms (Bear et al., 2004; Henderson, 1985). Picture sorts, a higher level of representation, do not require young children to be able to read, but can be used to recognize likenesses and differences and sort accordingly (Henderson, 1985; Invernizzi et al., 1994). One way to use picture sorts is to have students sort pictures into groups that begin with the same sound (Gentry & Gillet, 1993). Picture sorts can also be used for

consonant blends and digraphs, rhyming words, vowels, and word families (Invernizzi et al., 1994). Gentry & Gillet (1993) also suggest a kinesthetic approach to picture sorts where the child takes a card and stands in the correct group while holding their picture.

No matter what type of sort a teacher is using, scaffolding is necessary at the beginning and students cannot be expected to sort independently at first (Bear et al., 2004; Henderson, 1985; Invernizzi et al., 1994). The teacher should always model the sort (Bear et al.; Invernizzi et al.). This can be done with the students' own cards or the teacher can create larger cards to model the sort for the whole class (Bear et al.).

### *Content Area Spelling*

Spelling instruction can and should take place in other content areas (Gentry & Gillet, 1993; Snowball & Bolton, 1999; Wilde, 1992). All teachers should be teachers of spelling and should be aware of common spelling mistakes and help students learn strategies that will help them overcome these mistakes (Snowball & Bolton, 1999).

One way to implement inventive spelling instruction into other areas of the curriculum is through the use of thematic units of study conducted in the classroom around specific topics (Wilde, 1992). In these units students are expected to complete a variety of writing assignments. Although the main goal of these writing assignments is to learn about the unit topic, students' spelling ability is addressed by learning new vocabulary, and spelling strategies (Wilde, 1992). While reading texts for the unit or discussing new topics, students are exposed to new words and can use these words in their writing. Wilde (1992) cautions that although students should learn these new words and begin using them in their writing, initially they should use inventive spellings and not be required to spell conventionally. This allows students to get more complex ideas

down on paper without being limited to only the words they know how to spell (Wilde, 1992). This can be especially beneficial for students who struggle with spelling, as they do not have to fear being “right”. With increased exposure to the technical vocabulary, their spelling of the words will become more conventional. Science and social studies are two areas in the curriculum where thematic units can be used (Wilde, 1992).

### *Games*

Games used to teach spelling tap into a child’s natural instinct to play and when used appropriately, have a valuable place in early childhood classrooms (Gentry & Gillet, 1993; Snowball & Bolton, 1999; Swartz, 1991). Games spark interest, are highly motivating, and they are an appealing contrast to drill and practice. “Spelling games develop vocabulary, increase semantic and syntactic control, and stimulate logic and imagination” (Swartz, 1991, p. 102). Other benefits of using games include: maximum participation with minimum preparation, immediate feedback back to students, reinforcement, review, and enrichment, and the ability to reach all learners at all levels (Swartz). Swartz suggests letting the games do the teaching and focusing on the game aspect, not the *learning* aspect. Swartz also suggests the following considerations: (a) noise level; (b) equipment and materials needed to play the game; (c) time available for the game; (d) mood or tone of the class; (e) curriculum being studied at the moment; and (f) the need for a break.

Specific games to be used include puzzles, traditional word games, and printed puzzles or commercial games (Swartz, 1991). When using puzzles students can fill in the blanks, unscramble letters, or find specific errors (Swartz, 1991). When students complete puzzles it is beneficial to write their answers in a book and then have students



refer back to the book as a resource when they are completing writing activities (Swartz, 1991). Traditional words games can also be used such as hangman (Swartz, 1991).

When using traditional word games Swartz (1991) suggests that educators take care as to not force students to play and make sure students are engaged and getting something out of the game. Printed puzzles or commercial games can also be used. Scrabble, Boggle, Pictionary, Balderdash, Probe, and Scategories are examples of commercial games that can be useful for teaching spelling (Snowball & Bolton, 1999; Swartz, 1991). Word bingo, along with student made games can also be useful (Snowball & Bolton, 1999).

### *Modeling*

Teachers can enhance students' spelling development and encourage students to use inventive spelling by demonstrating for them how to figure out the spelling of words they wish to write (Gentry & Gillet, 1993; Snowball & Bolton, 1999). Modeling the use of inventive spelling helps students feel comfortable with coming up with their own spellings before they have to do it on their own (Gentry & Gillet, 1993). Modeled, shared, and interactive writing are methods that involve the teacher and students in writing. In Modeled Writing the teacher is responsible for both the content of the writing and the act of writing (Snowball & Bolton, 1999). The teacher would be at the board or chart and demonstrate writing for students. In my room I use a think aloud strategy as I write the daily news, a short story, or etc. This helps students develop the skills I want them to use when they are asked to complete the same types of writing on their own.

Shared writing is where the teacher and students come up with the content of the writing, but the teacher completes the actual writing. Students may add a few details and comments about how to spell words and the punctuation (Snowball & Bolton, 1999).

Interactive writing is where the teacher and students create the writing together, both taking turns to complete the actual writing (Snowball & Bolton, 1999).

...in interactive writing the children's existing knowledge is used, so that the class or individuals tell you how to spell or attempt a word and you focus children's attention on what they are currently learning about. The focus for beginning writers includes strategies such as understanding the concept of a word, remembering the spelling of high-frequency words, using onset and rime analogy to figure out how to spell a word, listening for sounds in words, and thinking about what words look like (Snowball & Bolton, 1999, p. 9).

These methods give children the opportunity to see the teacher model how to spell words, how to use resources to help find how a word is spelled, and how to proofread. Teachers can choose to demonstrate certain skills they want students to learn or skills students may be struggling with. It is important that these methods are modeled in a variety of writing experiences so students can see that they can be used in a variety of situations (Snowball & Bolton, 1999).

In conclusion, inventive spelling is a valuable instructional method that should be used in early childhood classrooms (Chomsky, 1971a, 1971b; Clarke, 1988; Ehri & Wilce, 1987; Gentry, 1987; IRA, 1998; Read, 1971; Sipe, 2001; Wilde, 1990). When using inventive spelling students use symbols to represent the sounds they hear in words (Clarke, 1988). Conventional spelling is not demanded when using inventive spelling, which allows students to spell words according to how they perceive them (Chomsky, 1971a, 1971b; Wilde, 1992). Students' early attempts at inventive spelling are closely related to their language development (Beers et al., 1977; Gentry & Gillet, 1993;

Holbrook, 1983; Lombardino, et al., 1997; Templeton, 1980; Wilde, 1990, 1992; Wood, 1982). Students' inventive spelling is also systematic (Beers, et al., 1977; Chomsky, 1971a; Read, 1971; Zutell, 1980).

Using inventive spelling contrasts traditional methods of spelling instruction (Clarke, 1988; Wilde, 1990). In more traditional methods, students were expected to memorize words grouped together by patterns (Wilde, 1990). Recently, however, the use of inventive spelling is becoming more and more widespread (Clarke, 1988; Ehri & Wilce, 1987; Gentry, 1987; IRA, 1998; Read, 1971; Sipe, 2001; Wilde, 1990). Benefits of using inventive spelling include a reduction in fear because students don't have to worry about always having the right spelling (Chomsky, 1971a, 1971b; Clarke, 1988; IRA, 1998; Wilde, 1996a, 1996b). This allows students to spend more time writing and to write more (Chomsky, 1971a; Clarke, 1988; Forester, 1980; IRA, 1998). Inventive spelling is also closely related to children's phonemic awareness development (Bear et al., 2004; Gentry, 1991; Griffith, 1991; Richgels, 1995; Silva & Alves-Martins, 2002; Tangel & Blachman, 1992) and reading development (Bear et al., 2004; Chomsky, 1971a, 1971b; Ehri & Wilce, 1987; Richgels, 1995). Students must be allowed to write in an environment where they feel comfortable (Chomsky, 1971a; Gentry, 1987; Gentry & Gillet, 1993; Henderson, 1985; Henderson & Templeton, 1991; Mann et al., 1987; Read, 1971; Snowball & Bolton, 1999). By analyzing inventive spelling samples, appropriate instruction can be provided for students (Bear et al., 2004; Invernizzi, et al., 1994; Lombardino, et al., 1997; Wilde, 1992, 1996a).

## CHAPTER FOUR

### CONCLUSIONS AND RECOMMENDATIONS

This review focused on using inventive spelling in early childhood classrooms. It answered three questions: (a) Should inventive spelling be an instructional practice used in early childhood classrooms? (b) What is the relationship between inventive spelling development and other areas of children's literacy development? (c) What are the best practices for using inventive spelling in the classroom? In this chapter I synthesize the findings of this literature review. I then provide suggestions for future research in the area of inventive spelling. Finally, classroom applications and educational policies and program revisions based on this literature review are discussed.

#### *Identification and Synthesis of Findings*

Inventive spelling has a valuable place in early childhood classrooms and should be used as an instructional method with young children (Chomsky, 1971a, 1971b; Clarke, 1988; Ehri & Wilce, 1987; Gentry, 1987; IRA, 1998; Read, 1971; Sipe, 2001; Wilde, 1990). Wilde (1990) credits the expansion of writing in elementary schools in the last decade to the use of inventive spelling. If students are only given a list of words to memorize, learners may think of spelling as a rote process, and they may not attend to phonetic skills that will make them successful spellers as well as readers. When students do inventive spellings, they attend to the phonetic aspects of words, not just memorizing them (Ehri & Wilce, 1987). "Students must have the opportunity to examine, manipulate, and make decisions about words according to categories of similarities and differences. It is up to teachers to direct students' attention to a particular contrast and to create tasks that require students to do so" (Invernizzi, et al., 1994, p. 166). Gentry

(1987) states, “Allowing children the freedom to take risks in their own writing is the best technique I know of” (p. 27).

In comparison to more traditional methods which focus on forms and conventions, inventive spelling, which allows for risk taking, focuses attention to writing as composition or communication. In the past students were taught using “memorization models” where they would memorize thousands of words on lists (Clarke, 1988). When inventive spelling is allowed students are able to use any words they want to get their thoughts down on paper (Chomsky, 1971a). Their expression of ideas is not limited to words they have memorized or know how to find the correct spellings for. This reduces students’ fear, as they do not always have to have the right answer (Clarke, 1988; IRA, 1998; Wilde, 1996a, 1996b). These factors can lead to increased engagement in writing and increased length of writing (Chomsky, 1971a, 1971b; Clarke, 1988; Forester, 1980; IRA, 1998).

The use of inventive spelling also relates to other areas of children’s development. Two specific areas are phonemic awareness skills and reading ability. Young children’s phonemic awareness skills enhance their ability to complete inventive spellings (Clarke, 1988; Griffith, 1991; Mann et al., 1987; Richgels, 1995; Tangel & Blachman, 1992). Students have to have an ability to break words into segments of sounds in order to represent them with written symbols (Chomsky, 1971a, 1971b; Clarke, 1988; Griffith, 1991; Mann et al., 1987; Richgels, 1995; Silva & Alves-Martins, 2002; Tangel & Blachman, 1992). There is also a reciprocal relationship between inventive spelling and phonemic awareness skills. Students who have greater phonemic awareness skills create better inventive spellings and as students invent spellings their phonemic awareness skills

Much can be learned from inventive spellings children create (Bear et al., 2004; Beers & Beers, 1991; Chomsky, 1971a, 1971b; Mann et al., 1987; Read, 1971; Scott, 1991; Tangel & Blachman, 1987; Snowball & Bolton, 1999; Wilde, 1992). By analyzing inventive spellings, teachers can identify a student's zone of proximal development and provide appropriate instruction (Chomsky, 1971a, 1971b; Craig, 2006; Read, 1971) and help children progress through the stages of spelling (Gentry, 1982, 2000; Hall & Hall, 1994; Wilde, 1992).

Finally, there are specific classroom methods teachers can utilize to get the most benefits from using inventive spelling in their classroom. Purposeful writing tasks, daily reading time, word study and word sorts, content area spelling, games, and modeling are all effective methods to employ when using inventive spelling in an early childhood classroom.

### *Future Research*

As inventive spelling becomes more common in early childhood classrooms research on the long-term affects of using inventive spelling methods is needed. This review only concentrated on students in grades kindergarten through second. Students could be followed from their time in early childhood classrooms where invented spelling is used to monitor their success in future grades. The use of inventive spelling, particularly with struggling readers and writers could be examined in upper elementary grades. The success of students who were allowed to use inventive spelling could be compared to those who went through their early years using only traditional methods.

Another area of research that could be developed would be study on attitudes of students who were allowed to use inventive spelling. In more traditional methods

students sometimes possess a fear that spelling has to be perfect, and they can become overwhelmed and discouraged by having to memorize so many words. It would be interesting to see if students who were allowed to use inventive spelling have different beliefs and feelings towards spelling than those who were instructed in more traditional methods. Questions such as the following could be examined: (a) Do students who were allowed to use inventive spelling have a more positive attitude about spelling than those who were instructed using more traditional spelling methods? (b) Do students who were allowed to use inventive spelling still believe that a person is inadequate or less intelligent if they cannot memorize 1000's of words? (b) Do parents come to see spelling differently when their child is allowed to use inventive spelling?

Also, the use of spelling stages is another area for future research. Although stages are widely accepted, some dispute their use because there are no completely reliable scoring systems that are sensitive enough to test the lower level responses of young children demonstrating emerging literacy before formal instruction (Tangel & Blachman, 1992). Tangel and Blachman (1992) advocate for an adequate system because inventive spellings are valuable and can be used as assessment tools. The determination of reliable scoring methods would be an area for further development. Refinement of a scoring method would also allow for teachers in early childhood classrooms to learn more about their student and to provide appropriate instruction for all students.

Teachers also have an important role in the research of inventive spelling. Hall and Hall (1984) state, "Writing with children during the school day allows the teacher the opportunity to understand writing development that could be easily overlooked by researchers who have limited time to spend with the children" (p. 822). Action research

projects in the classroom could give relevant and first hand knowledge about the use of inventive spelling. This knowledge will help the use of inventive spelling grow into the future.

### *Classroom Applications*

This review has determined that inventive spelling does have a place in early childhood classrooms. Not only does inventive spelling help reduce fear in young children, but also it enhances the phonemic awareness and reading skills of young children. These areas are very important to the development of young children and teachers strive to help students develop in these areas. Inventive spelling gives them a research-based method for doing so. In order to use inventive spelling most effectively teachers must understand the importance of inventive spelling and know the best classroom methods for implementing it. Teachers must also assess what students produce to provide appropriate instruction and to help students develop through the stages of spelling development.

### *Educational Policies and Program Revisions*

Despite all the benefits of inventive spelling, its use is still questioned by some parents and even some educators (Chomsky, 1971a; Gentry, 2000; Read, 1971; Snowball & Bolton, 1999; Wilde, 1992, 1996b). These doubts may suppress the willingness of some parents and educators to implement inventive spelling or to allow children to use inventive spelling (Chomsky, 1971a). Educational policies and procedures must support this methodology so that these educators and others recognize the potential benefits of using inventive spelling.



Most adults were taught to spell in traditional ways that vastly differ from the use of inventive spelling (Wilde, 1996b). Parents may come to possess a fear that their child's inventive spelling will lead to "bad habits" (Chomsky, 1971a; Read, 1971). Parents and other adults wonder if the child's lengthy exposure to systematic "misspellings" cause problems when they are eventually required to use standard spelling, despite the fact that this transition seems to pose no difficulty (Chomsky, 1971a; Gentry, 1987). One way to overcome these fears is for teachers to provide communication about inventive spelling practices in early childhood classrooms (Gentry, 1987, 2000; Gentry & Gillet, 1993; Snowball & Bolton, 1999; Wilde, 1992). I have found that showing parents examples of a student's spelling at various points of the year demonstrates how the student's writing is developing towards conventional form. I also give parents information about spelling stages. When parents and other have this knowledge they are more willing to accept the use of inventive spelling.

In conclusion, inventive spelling has a valuable place in early childhood classrooms. It allows for the natural development of spelling. Students feel confident in taking risks and are engaged in writing for authentic purposes. As students' development in the area of spelling grows, so too will their development in other areas such as phonemic awareness and reading. Teachers, administrators, school staff, parents, and others must work together to provide the environment and support needed for inventive spelling to flourish.

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